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DETERMINANTS OF HEALTH PROMOTION BEHAVIOR  
IN ACTIVE DUTY AIR FORCE  
PERSONNEL

by

Bridgette J. Grabowski

A thesis proposal submitted in partial fulfillment  
of the requirements for the degree of

Master of Science

in

Nursing

Department of Nursing  
University of Nevada, Las Vegas  
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The proposal of Bridgette J. Grabowski for the degree of Masters in Nursing is approved.

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## ABSTRACT

Increased attention has been given to health promotion and disease prevention activities within today's ever-changing health care system. Health continues to be a valued personal commodity. Several researchers have identified health promotion, disease prevention, and a lifestyle of wellness as issues that promote quality of life and personal satisfaction, ultimately reducing health care expenses. Within the Air Force (AF), emphasis has also been placed on health promoting behavior. Readiness, both physical and mental, are universal goals within the military environment. However, the AF has a paucity of research regarding health promotion behavior and characteristics that influence a healthy lifestyle. The purpose of this research study will be to determine the extent which locus of control and demographics, as selected factors of Nola Pender's Health Promotion Model (HPM), can predict health promotion behavior in a sample of 100 active duty Air Force personnel. A predictive correlational design will clearly exhibit the extent which locus of control and demographic variables (age, gender, marital status, ethnicity, income, children, education, military rank, occupation, hours worked per week) variables can predict health promoting behaviors in active duty Air Force members.

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## CHAPTER 1

### INTRODUCTION

#### Background and Significance

Increased attention has been given to health promotion and disease prevention activities within today's ever-changing health care system. Health continues to be a highly valued and important personal commodity. Several researchers have identified health promotion, disease prevention, and a lifestyle of wellness as issues that promote quality of life and personal satisfaction, ultimately reducing health care expenses (Duffy, 1993).

Health and health promotion are fundamental concepts for nursing practice (Spellbring, 1991). The American Nurses Association (ANA) Social Policy Statement reflects nursings' commitment to the promotion of health and links the nature and scope of nursing practice to the phenomena of concern to nurses which is defined as "human responses to actual or potential health problems" (ANA, 1980, p. 9).

Within the Air Force, emphasis has also been placed on health promotion activities. Military bases are analyzing and revising health promotion strategies in order to effectively target high risk groups. The need for preventive services and health

promotion is significant in terms of reducing health care costs, improving the health and well being of military personnel and their families, and ensuring a qualified military force ( Johnson, Harsha, Powers, Webber, & Berenson, 1993).

Readiness, both physical and mental, are universal goals within the military environment. The Air Force community encourages and supports high level wellness and a personal commitment to health. In order to maintain a state of military readiness (prepared to deploy), accessible health care, wellness centers, nutrition courses, support programs, and exercise activities are available to Air Force beneficiaries. Although these programs are accessible and greatly encouraged, many active duty Air Force personnel choose not to participate in health promoting behavior.

In addition, limited information exists regarding health promotion behaviors of the active duty Air Force member. Historically, most health promotion research has been accomplished on white middle-class male professionals (Levin, 1987; Pender, Walker, Sechrist, & Frank-Stromberg, 1990; Weitzel & Waller, 1990). In comparison, minorities' (ethnic and female) health promotion activities have been overlooked. The Air Force is comprised of an increasing number of female and of a variety of ethnic personnel. The literature also illustrates many factors that influence health status and activities, but with mixed results (Duffy, 1989). In order to maintain a state of military readiness within the infrastructure, additional research that is sensitive to the Air Force environment, must be accomplished to more accurately predict determinants of health promoting lifestyles of Air Force personnel.

Pender's Health Promotion Model (HPM) (1987) emphasizes high level wellness and self-actualization, which ultimately improves a person's sense of well-being and health status in the absence of a specific disease state. Pender's HPM (1987) will be utilized as the theoretical framework for this study because of its health promotion emphasis and included variables.

Pender postulates that individual perceptions relate to health promoting behaviors. Importance of health, perceived control of health, perceived self-efficacy, definition of health, perceived health status, perceived benefits of health promoting behaviors, perceived barriers to health promoting behaviors influence the decision making process of health promoting behavior and are therefore precursors to wellness (Pender, 1987).

Additionally, Pender (1982) theorizes that modifying factors relate to personal health. Demographic (age, sex, race, ethnicity, education, and income), interpersonal (expectations of significant others, family patterns of health care, interactions with health professionals), biologic characteristics (percent body fat, total body weight), situational factors (environmental constraints, health promotion options available), and behavioral factors (previously acquired knowledge and skills) factors can also determine the extent and success of health promotion activities by exerting influence through cognitive-perceptual mechanisms that affects behavior (Pender, 1987).

The HPM's components (perceived locus of control and demographics) are believed to be predictors of health promotion behavior. Further research in the area of health promotion with all groups will contribute to achievement of health for all by the year 2000.

### Purpose

The purpose of this research study will be to determine the extent selected variables, suggested by Pender's HPM, can predict health promotion practices of active duty Air Force personnel. These factors include: locus of control and demographics (age, gender, marital status, ethnicity, income, children, education, military rank, occupation, hours worked per week).

## CHAPTER 2

### CRITICAL REVIEW OF THE LITERATURE

#### Introduction

Health promotion has become increasingly important in today's health care environment. It is recognized that prevention of disease entities and health promotion behaviors will decrease health care expenses and improve quality of life within every demographic arena.

Within the military setting; military rank, culture, age, ethnicity, and gender diversity in a wide variety of work settings, determine multiple patterns of health care beliefs and practices. Health promotion is determined and expressed with social and cultural variations. Disease prevention and health-promotion activities seek to decrease the occurrence of specific illnesses or dysfunction (Pender, 1987).

The purpose of this research study will be to determine the extent selected variables, suggested by Pender's HPM, can predict health promotion practices of active duty Air Force personnel. These factors include: locus of control and demographics (age, gender, marital status, ethnicity, income, children, education, military rank, occupation, hours worked per week).

The concepts reviewed in the literature review are health promotion, health promotion models, locus of control, demographic and military research related to health promotion.

### Health Promotion

There are varying perceptions and definitions of the health promotion concept. Health promotion has been referenced in the literature as disease prevention methods, health education, and health maintenance (King, 1994). Health promotion involves all of these concepts and is considered health care directed toward self-actualization and total well being of individuals, families, communities, and ultimately societies (Pender, 1996). Spellbring (1991) also believes that all of the preceding activities are included in health promotions and it should be viewed as a separate entity within the health care system. Additionally, Laffrey (1985) and Brubaker (1983) cite that health promotion is any action taken toward achieving a higher level of health and well being.

Pender further states that health promotion is “not disease or health problem specific, it is an “approach behavior”, and seeks to expand positive potential for health” (Pender, 1987, p. 5). Health promotion is a multidimensional, positive, dynamic process (Pender, 1987).

Health care providers have long realized the importance of health promotion. Healthy People 2000, initiated by the Department of Health and Human Services (DHHS), has set goals to improve the health of all Americans by 2000. The initiative’s aim is characterized by a reduction in preventable deaths and disability, enhanced quality

of life, and increased lifespan (USDHHS, 1990). The DHHS' objective is to "reduce the death rate by 20 percent to no more than 340 per 100,000 people aged 25 through 64" (USDHHS, 1990 p. 577).

The Surgeon General reported that at least 50% of the deaths in the United States each year were due to an unhealthy lifestyle (USDHHS, 1980). In 1994, a report from the DHHS highlights this continued trend in the United States. The report declares approximately 50 % of deaths in people under age 75 years of age are caused by personal behaviors that can be adjusted (USDHHS, 1994). In addition, it reports other significant causes of premature death which pertain to environmental factors under human control. Tobacco, diet, inactivity, alcohol, microbial agents, toxic agents, firearms, sexual behavior, motor vehicles, and illicit drugs were the top ten underlying causes of death in 1990 (Whitmer1993). These behaviors have been proven to add to the mortality and morbidity of US citizens and are in the control of the individual.

Health Promotion-Disease Prevention: Objectives for the Nation (USDHHS, 1980) reported nationally organized health services that they determined to render health promotion activities. This report summarizes the concept of health promotion as a combination of health education and related environmental, organizational, and economic interventions that support activities that promote health and a healthy lifestyle. Issues include: smoking, alcohol abuse, drug abuse, nutrition, physical fitness, and stress management.

### Health Promotion Models

Becker's health belief model (HBM) was designed in the 1960s as a basis for exploring why some people who are disease-free take actions to prevent illness, while others fail to take protective actions (Pender, 1996). The model is derived from social-psychological theory, primarily the work of Lewin, "who conceptualized that the life space in which an individual exists is composed of regions, some having negative valence, some having positive valence, and others being relatively neutral" (Pender, 1996, p.35). Health protective behavior is "any behavior performed by a person, regardless of his or her perceived or actual health status, in order to protect, promote or maintain his health, whether or not such behavior is objectively effective toward that end" (Harris & Guten, 1979, p. 18). The HBM is a conceptual framework that investigates an individual's perceptions and their association with health promotion behavior.

"The model viewed preventive health action as likely to be performed by persons who 1) feel threatened by a disease (perceive themselves susceptible to it and perceive its consequences to be severe), 2) perceive the benefits of preventive action to outweigh its costs, and 3) are exposed to some behavioral cues of action, all of the former being modified by 4) a set of demographic, structural, and social psychological factors" (Harris & Guten, 1979, p.18). Becker and his associates expanded this framework to include more than preventive health actions. Becker defined his model prior to distinction between health promotion and disease prevention activities. Although the HBM



primarily focuses on illness prevention, Pender pulls from its framework of health protective behavior to further illustrate the concept of health promotion.

The HPM is also based on the cognitive theory in which “cognition, affect, actions, and environmental events are proposed as operative interactively in determining behavior” (Pender et al., p. 326). Walker, Sechrist, and Pender (1987) developed the Health Promoting Lifestyle Profile II (HPLPII) instrument to accurately assess health promotion activities. Health promoting lifestyle was described as a “multidimensional pattern of self-initiated actions and perceptions that serve to maintain or enhance the level of well-being, self actualization, and fulfillment of the individual” (Pender, 1987, p. 77). This model emphasizes the influence of cognitive and perceptual factors on an individual’s health promotion behavior. “Two sources of motivation that play a crucial role in a person’s behavior are the actualizing and stabilizing tendencies that are directed toward promoting change, growth, and maturation and toward protecting the system through maintaining balance and equilibrium of the internal and external environments” (Fleetwood & Packa, 1991, p. 69).

#### Locus of Control Research

Duffy (1989) utilized Pender’s model to investigate the effects of health locus of control, self-esteem, and explicit health promotion activities in 420 employed women. 33% of the variance of overall health status was explained by diagnosed health problem, income, internal locus of control, self-actualization, chance health locus of control, health responsibility, and exercise (Duffy, 1989). Duffy’s study (1996) of employed Mexican-

American women revealed that age, education, self-efficacy, health locus of control (internal and powerful others), and current health status made statistically significant contributions to all health promotion lifestyle profile subscale scores.

Duffy (1988) reviewed health locus of control, self-esteem, and health status for their impact on health-promoting lifestyle activities in 262 women between the ages of 35 and 65. Results indicate partial support for Pender's model which states that individual perceptions of health locus of control, self-esteem, and health status influence health promotion behavior. Additionally, Duffy sampled 477 persons 65 years and older to determine what variables determined an individual's engagement in health promotion activities. Her results showed that older persons with high self-esteem and internal locus of control practiced five of the six health promotion strategies (Duffy, 1993).

Muhlenkamp, Brown, and Sands (1985, p. 331) found that "a strong belief in chance was negatively associated with engaging in health promotion activities; a strong belief in powerful others was negatively associated also".

### Demographics

Self-rated health status, self-efficacy, motivation, and selected demographics were analyzed by Fehir (1988). Socioeconomic status was not directly related to the health promotion model's variables. Marriage and motivation were found to be directly related to Pender's model. Overall, results supported that men with moderate to high perceived health status, self-efficacy, and motivation acknowledged spouse input as a precursor to health responsibility.

Self-actualization, interpersonal support, nutrition, exercise, and health belief are consistent with Pender's health belief model (Duffy, 1988). However, demographic variables did not have an impact on health promoting behaviors. As presented by Duffy (1988), this discrepancy from Pender's view, that demographic variables have an impact on health promoting behaviors, is most likely due to the homogeneity of the sample.

Extending the review to other age populations, Duffy (1993) reviewed Pender's model in relation to health care practices. It was found that older persons with high self-esteem and internal locus of control practiced five of the six proposed health promotion strategies. Men with higher income and motivational higher self-esteem but poorer health status, less often exercised or ate well. Older married persons who were internally controlled were more likely to engage in exercise, health responsibility and stress management but not interpersonal support. Gillis (1994) studied adolescent females' health promoting behavior. Results speculate that parents' health promoting lifestyles are directly correlated with their daughters' health-promoting lifestyles. Volden (1990) postulates that there is a relationship between age, gender, and exercise practices to measures of health, life-style, and self-esteem. Significant correlations were found between the variables. These findings also support Pender's health promotion model.

Duffy, Rossow, and Hernandez (1996) investigated the health promoting behaviors of 397 employed Mexican American women and compared this sample to other reports using the HPLP. The results indicated that Mexican American women had the highest HPLP scores of all minority groups, but lower than Caucasian groups. Age,

education, health locus of control (internal and powerful others), self-efficacy and current health status were significantly important variables to the HPLP scores.

Muhlenkamp, Brown, and Sands' (1985) sample of 175 subjects in a nursing clinic indicated that being married or widowed, increased age, Protestant religions, higher education, and higher income was related to practicing more health promotion behaviors.

Ahijevych and Bernhard (1994) researched health promoting lifestyle behaviors among 187 African American women and contrasted findings to other reports utilizing the Health Promoting Lifestyle Profile (HPLP) tool. Interpersonal support and self-actualization were the highest ratings within the group. Exercise activities was the lowest rated subscale, which is consistent with previous that African American women are less likely to exercise, not smoke, and maintain favorable weight standards. However, the scores were generally lower than scores from other groups. The results support Pender's health promotion model.

### Military Health Promotion Research

Limited studies have been accomplished within the military system regarding personal and base health promotion activities. The military (Air Force, Navy, Marines, and Army) are unique subcultures that warrant further investigation regarding health promotion practices.

The Army's Health Risk Appraisal and Promotion seminar was tested to analyze its significance. The results of the intervention indicated limited but significant change in

Army personnel's behavior. The study results also suggested that self-efficacy scores are predictive of specific behaviors (Barfield, 1992).

Alcohol consumption and tobacco use are also a health related concern within the military. Henley (1991) suggests that level of alcohol consumption is inversely related to biological age; contextual beliefs effect the degree of alcohol consumption; positive relationships were found for the sociodemographic factors of ethnicity, military rank, marital status and degree of alcohol consumption; and although type of occupation (in relation to gender) does not relate to alcohol consumption, the risk of consuming more alcohol is increased among those servicewomen who are in predominately male occupations. Other studies have found a greater rate of smoking and alcohol use among active duty personnel compared to their civilian counterparts (Johnson, Harsha, Powers, Webber, Berenson, 1993).

Military personnel have weight standards to maintain in order to maintain maximum wartime readiness. Hudak (1988) investigated overweight and normal weight Army personnel to determine health beliefs and health promotion activities. The findings indicated that there were no significant differences between the groups in their value of health or health conception. Perceived health status and a history of childhood obesity discriminated the most between the two weight groups.

Wright, Knapik, Bielenda, & Zoltick (1994) investigated physical fitness and cardiovascular risk factors in male senior military officers. Overall, findings reflected an apparently healthy diet and lifestyle. Lower total cholesterol and smoking rates were illustrated in comparison to the average civilian 45 years old. Additionally, it was

reported that military officers have a high aerobic capacity, are normotensive, non-obese, and at low risk for development of cardiovascular disease.

Jonas (1994) investigated soldiers 17 to 58 years of age with the average being 30 years. Soldiers identified the most important health goals which were to improve self-esteem and family relationships, increase exercise, and improve diet. The most detrimental health habits among the soldier was smoking, followed by deficiency of regular physical exercise, high fat diet, and being overweight.

### Summary

This chapter addresses the pertinent literature regarding health promotions, health promotion models, locus of control, demographics and military research related to health promotions. There is a scant amount of nursing literature regarding determinants of health promotion practices in the military setting. The military system is a unique subculture and warrants more extensive research regarding health care practices and related psychological variables as identified by Pender (1982).

## CHAPTER 3

### FRAME OF REFERENCE

#### Introduction

Health promotions is a rapidly expanding component of civilian and military health care systems. This chapter will illustrate Pender's HPM, derived from Becker's HBM. The HPM will guide the researcher to draw conclusions of predictive relationships regarding locus of control, demographic variables, and health promotion behaviors in Air Force personnel.

#### Conceptual Framework

Pender's HPM focuses on movement toward high-level wellness and actualization. The model is used as a "framework for integrating nursing and behavioral science perspectives on factors influencing health behaviors" (Pender, 1996, p 51). Pender contends that health promoting behaviors are an expression of the individual's actualizing tendencies and not only a reaction to the threat of illness. Pender asserts health promoting behaviors can be a positive expression of increased self-awareness, self-satisfaction, enjoyment, and pleasure. They focus on maintaining or improving a

person's sense of well-being and health status in the absence of a specific threat to their health state. Pender (1987) postulates that health-promotion behavior, perceived control, self-esteem, demographics, and health status are related to each other (Duffy, 1993).

“The model (1) introduces order among concepts that may explain the occurrence of health promoting behavior, (2) provides for the generation of hypotheses to be tested empirically, and (3) integrates disconnected research findings into a coherent pattern” (Pender, 1987, p. 57).

The HPM portrays a multidimensional person who is interactive with his/her environment as he/she pursues health and wholeness. The HPM is proposed as an explanation of why individuals engage in healthy behavior. Holistic human functioning is the major construct (Pender, 1987).

The HPM includes seven assumptions, that reflect behavioral and nursing science outlooks:

1. Persons seek to create conditions of living through which they can express their unique human health potential.
2. Persons have the capacity for reflective self-awareness, including assessment of their own competencies.
3. Persons value growth in directions viewed as positive and attempt to achieve a personally acceptable balance between change and stability.
4. Individuals seek to actively regulate their own behavior.
5. Individuals in all their biopsychosocial complexity interact with the environment, progressively transforming the environment and being transformed over time.



6. Health professionals constitute a part of the interpersonal environment, which exerts influence on persons throughout their life span.
7. Self-initiated reconfiguration of person-environment interactive patterns is essential to behavior change (Pender, 1996, p. 54). These assumptions accentuate the active role of the patient in developing and adhering to health behaviors and in changing their environment.

Pender's Health Promotion Model (1987) includes two phases of client involvement: the decision making phase and the action phase. Specific strategies included in Pender's decision making phase include; health assessment, values clarification, promoting competence for self-care, and the development of a health-protection/promotion plan. This stage promotes informed decision making by the patient about health activities (1987). Pender's second stage, the action stage, cites specific actions that the patient can select to preserve and strengthen personal health status. This stage includes modification of life style, exercise and physical fitness, nutrition and weight control, stress management, and social support and health.

The decision making phase consists of individual perceptions and modifying factors. Individual perceptions include the importance of health, perceived control of health, perceived self-efficacy, definition of health, perceived health status, perceived benefits of health-promoting behaviors and perceived barriers to health-promoting behaviors. Modifying factors include demographic, biologic, interpersonal, situational, and behavioral variables that affect people's dispositions regarding health promoting behavior.

The second phase, or the taking action phase, includes both barriers and cues to action that influence activity. Cues to action are "the likelihood of taking health promoting action dependent on activating cues either of internal origin or emanating from the environment" (Pender, 1987, p. 68). Feelings of well-being, conversations with others pertaining to their exercise and nutrition routine, stress management or relationships may be cues to action. Additionally, the media portrays programs on health, lifestyle, and diseases. "The intensity of the cues needed to trigger action will depend on the level of readiness of the individual or group to engage in health promoting activity (Pender, 1987, p. 69). There is fluid movement between the two phases.

Pender's Health Promotion Model (1987)

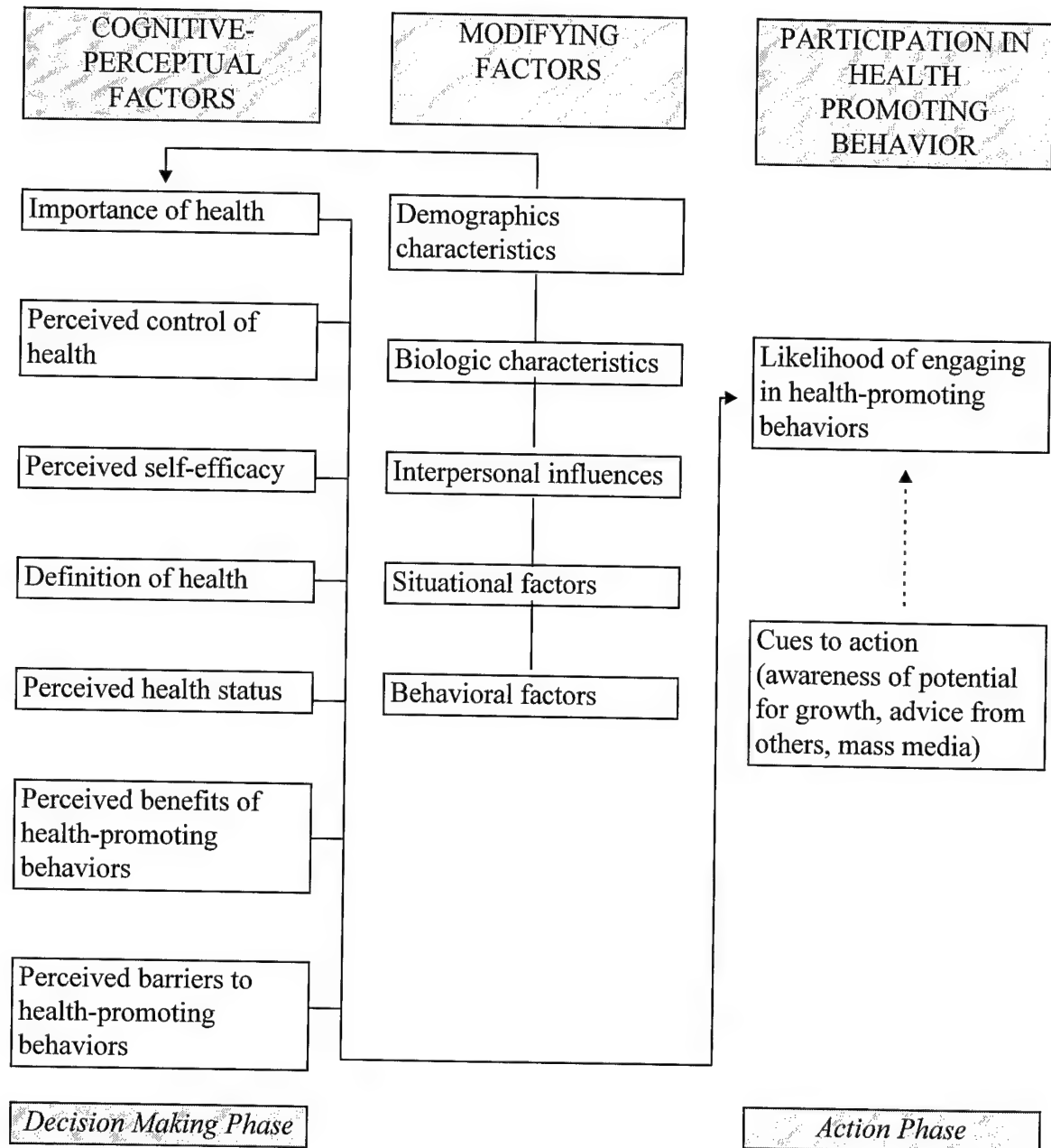


Figure 1 Pender's Health Promotion Model (From Pender, N. (1987). *Health Promotion in Nursing Practice*. Norwalk, Connecticut: Appleton-Lange, 58. Reprinted with permission)

Pender contends that health promoting behaviors are related to her cognitive-perceptual and modifying factors. Cognitive-perceptual factors are the primary mechanisms for acquisition and maintenance of health-promoting behaviors. Pender states that each factor is proposed as exerting a direct influence on the likelihood of engaging in health-promoting behavior (Pender, 1987). Factors identified within the model are: (a) importance of health, (b) perceived control of health, (c) perceived self-efficacy, (d) definition of health, (e) perceived health status, (f) perceived benefits of health promoting behaviors, (g) perceived barriers to health promoting behaviors.

This study will explore one cognitive-perceptual variable, locus of control, as defined in Pender's HPM. Locus of control (internality vs. externality) will be investigated as to its impact on health promotion behaviors.

Modifying factors, described by Pender (1987) as demographic characteristics, biologic characteristics, interpersonal influences, situational factors, and behavioral factors. These factors only indirectly affect action tendencies through their relationship with perception to threat. In addition to locus of control, this study will evaluate demographic variables and their predictive relationship with health promoting behavior. Demographic characteristics such as age, gender, marital status, ethnicity, income, children living in the home, education, military rank, occupation, and hours worked per week will be analyzed.

Pender states that "Sex is the demographic variable most predictive of preventive behaviors, and women exhibit a predisposition to engage in those behaviors more frequently than men. Education as a determining factor is supported by some studies in

which the level of formal education correlated positively with the frequency of preventive actions. Race and ethnicity appear to be factors in use of preventive services only when they are associated with socioeconomic level. Socioeconomic status appears to exert an effect only when significant cost or time is required to carry out preventive actions" (Pender, 1987, p. 48).

This study will be an extension of Duffy's (1988) research. Duffy studied mid-life women and referenced Pender's HPM. She analyzed health locus of control, self-esteem, and health status as determinants of health-promoting lifestyles. Her findings, partially support Pender's (1982) health promotion model which states that individual perceptions of health locus of control, self-esteem, and health status influence health promotion behavior. However, Duffy's study did not support Pender's view that demographic variables have an impact on health-promoting behaviors. Although Duffy and other researchers have completed research on health promotions and Pender's model, the Air Force community has not been included. This knowledge gap needs to be filled as the information is vital for military health care professionals to direct their care. This researcher contends that the variables, locus of control and demographics, will firmly support Pender's model.

#### Research Question

The research question for this study is: To what extent do perceived locus of control and demographic variables (age, gender, marital status, ethnicity, income,

children, education, rank, occupation, hours worked per week) explain health promoting behaviors in the active duty Air Force (AF) population at one AF base?

### Hypotheses

1. Locus of control will predict health promotion behaviors in active duty Air Force personnel assigned to one base.
2. Demographic variables (age, gender, marital status, ethnicity, income, children living at home, education, military rank, occupation, and hours worked per week) will predict health promoting behaviors in active duty Air Force personnel assigned to one base.

### Definition of Terms

The terms will be defined in a theoretical and operational contexts.

Locus of Control - The theoretical definition of locus of control is "the belief that health is self-determined, is influenced by powerful others, and/or is the result of chance or fate (Wallston, Wallston, Kaplan, and Maides, 1976, p. 71). Locus of control is derived from the social learning theory. According to Rotter, from their social learning experiences individuals develop general expectancies about the effects of their behavior (Oberle, 1991). Individuals identified by an internal locus of control expect that outcomes are within their control and are due to their actions. Individuals with an external locus of control believe personal outcomes are more often due to chance, fate, or powerful others and not in their control. This belief in internal or external control is thought to be a

relatively stable personality characteristic (Wurtele, Britcher, & Saslawsky, 1985). The operational definition is determined by the results of the Multidimensional Health Locus of Control Scale used to measure a person's perceived locus of control in determining their state of health..

Demographic Characteristics - The theoretical definition includes characteristics of an individual and/or their lifestyle. The operational definition includes age in years, gender, annual household income, highest educational level attained, ethnicity, marital status, occupation, children, rank, hours worked per week as illustrated on the demographic form included in the survey.

Active Duty Air Force Personnel - The theoretical definition includes any individual that permanently represents the Air Force. All ranks are included.

Health Promoting Behaviors - The theoretical definition is "a multidimensional pattern of self-initiated actions and perceptions that serve to maintain or enhance the level of wellness, self actualization and fulfillment of the individual" (Walker, Sechrist & Pender, 1987, p. 76) Activities directed toward increasing health and well being and realizing the health potential of individuals, families, communities, and society. The operational definition is defined by the results of the Health Promoting Lifestyle Profile II (HPLPII). This instrument recognizes the frequency of self reported health promoting behaviors associated to self actualization, health responsibility, exercise, nutrition, interpersonal support and stress management (Walker et al., 1987). Each of the preceding six sections of health behaviors exists as a subscale measurement.

### Assumptions

Basic assumptions of the study include:

1. All individuals strive for health and well-being.
2. Individuals are the most reliable and important source of their health related behavior.
3. Participants will answer the survey honestly, completely, and accurately.
4. Air Force personnel are free to choose from numerous opportunities to perform health promoting behaviors.
5. The Air Force is selective in their recruitment of active duty personnel. A complete physical is performed prior to their approval of enlistment/commission.
6. The selected instruments will measure what they are intended to measure.
7. Individuals behave on the basis of cognitive information.
8. External and internal factors exert influence on an individual's behavior.

Pender's HPM assumptions include:

1. Persons seek to create conditions of living through which they can express their unique human health potential.
2. Persons have the capacity for reflective self-awareness, including assessment of their own competencies.
3. Persons value growth in directions viewed as positive and attempt to achieve a personally acceptable balance between change and stability.
4. Individuals seek to actively regulate their own behavior.
5. Individuals in all their biopsychosocial complexity interact with the environment, progressively transforming the environment and being transformed over time.



6. Health professionals constitute a part of the interpersonal environment, which exerts influence on persons throughout their life span.
7. Self-initiated reconfiguration of person-environment interactive patterns is essential to behavior change (Pender, 1996, pp. 54-55). These assumptions accentuate the active role of the individual in developing and adhering to health behaviors and in changing their environment.

### Summary

This chapter described Pender's HPM as the conceptual framework of this research study. The HPM defined the variables under study and provided the framework for the researcher's research question and hypotheses.

Additionally, health promoting behavior has been reinforced as an activity that maintains a state of readiness within the military system. Health is a significant factor in retaining an individual to retirement. Health promotion measures are more cost-effective in improving the health of a population than is aggressive costly medical treatment. An improvement in health promoting practices can reduce illnesses and increase overall quality of life.

If active duty Air Force personnel believe they are in control of their health status, it is reasonable to predict that they will participate in health promoting behaviors. Demographic factors also play a role in determining the practice of health promoting behavior.

The purpose of this study is to investigate the predictive relationships among locus of control and demographics in relation to health promoting behavior in active duty Air Force personnel. By determining the predictive relationship, the researcher will scientifically test the hypotheses.

## CHAPTER 4

### METHODS AND PROCEDURES

#### Introduction

The purpose of this research study will be to determine the extent locus of control (internality vs. externality) and demographics (age, gender, marital status, ethnicity, income, children, education, military rank, occupation, hours worked per week) can predict health promoting behavior in active duty Air Force personnel.

This chapter will describe the methodological components of the study including the research design, sample, setting, population, measurement methods, procedure, ethical considerations for human subject protection, data analysis, and communication of findings.

#### Research Design

This study will be a predictive correlational, non-experimental investigation. A descriptive design will describe the sample and its components. A predictive design will be used to predict health promoting behavior based on the values obtained regarding

perceived locus of control and demographic features of Air Force personnel. No treatment will be administered to the subjects.

### Sample

The target population consists of active duty Air Force personnel assigned to an Air Force base. A sampling frame will be acquired from base personnel services and include all members of the population.

Sample size has been determined by Cohen's analysis utilizing a 1.0 power level, .05 alpha and small effect size. A computer program, located at University of Nevada, Las Vegas' Department of Nursing, was utilized to determine the sample size of 100. It is expected that approximately 50% of the randomly selected individuals will not consent to participate in the study or be unavailable, therefore the researcher will sample 250 personnel to provide assurance of adequate sample size to maintain power level. The active duty population of the base selected was 6,910 in May of 1996.

The sampling plan of the researcher includes simple random sampling ( $N=250$ ) "to ensure some degree of precision in accurately estimating the population parameters" (Burns & Groves, 1993, p. 239). Every member of the population has equal opportunity to be selected for the sample. The sample will be selected randomly from the list (supplied by Base Personnel) of all active duty personnel assigned to the selected Air Force base. After taking the base active duty population and dividing it by 250, every "nth" person on the alphabetized registrar will be selected.

### Setting

The setting for the study will be an Air Force Base located approximately five miles northeast of Las Vegas, Nevada. It is an Air Combat Command (ACC) base and its mission includes flight testing, training, and essential support groups. Support groups (hospital included) serve Department of Defense beneficiaries as determined by federal law. All active duty members will be equally accessible for random sampling.

Following approval and support of the base commander, the base newspaper will be notified regarding the survey to promote participation. A small article will be placed in the paper one to two weeks prior to survey distribution.

### Measurement Methods

#### Multidimensional Health Locus of Control Scale

Wallston, Wallston, Kaplan, & Maides (1976) developed and validated the Health Locus of Control (MHLC) Scale (Appendix A). By determining a person's locus of control, Wallston hypothesized that the researcher could gain information on his or her need for exposure to more information (Frank-Stromberg, 1988).

The MHLC is an 18 item instrument developed to measure the extent to which subjects believe their health-related behaviors are internal (under their own control); a matter of chance (under the control of chance occurrences), or under the control of powerful others. In essence, the variable assessed is the kind and extent of control a person thinks he has over his own state of health. This tool was developed from Rotter's social learning theory (Wallston & Wallston, 1978).

A six point Likert-type scale is used for responses. The six response categories are: strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, and strongly agree. The level of measurement is interval.

The MHLC is designed to yield three scores, indicating internality, chance externality, and powerful others externality. Each item scored from 1 (strongly disagree) to 6 (strongly agree). The tally of each subscale is the sum of the values circled for each item on the subscale. Items 1, 6, 8, 12, 13, and 17 identify internality, with a possible range of scores between 6 and 36. Items 2, 4, 9, 11, 15, and 16 identify chance externality, with a possible range of scores between 6 and 36. Items 3, 5, 7, 10, 14, and 18 identify powerful others externality, with a possible range of scores between 6 and 36. Items do not need to be reversed prior to summation (Wallston, 1996).

Wallston (1978) reported Cronbach's alpha reliabilities ranging from .67 to .77 for the subscales, and presented evidence for construct validity. Wallston & Wallston (1996) concluded that Cronbach's alpha coefficients for this study were .77 for internal health locus of control, .69 for chance, and .73 for powerful others. Other researchers have utilized this instrument in relation to Pender's model in determining health-promoting behavior. Permission has been received from Dr. Wallston to use the MHLC instrument (Appendix B).

Reliability will be tested by Cronbach's alpha and content construct validity will be analyzed for the sample obtained.

### Health Promoting Lifestyle Profile II

The original Health-Promoting Lifestyle Profile (HPLP) was developed by Walker, Sechrist, and Pender (1987) from the Lifestyle and Health Habits Assessment, originally a 100 item clinical nursing checklist of positive health behaviors (Pender, 1982). The Health-Promoting Lifestyle Profile II (HPLPII) has been devised from the HPLP to measure an individual's current practice of behaviors that serve to maintain or increase levels of wellness, self-actualization, and fulfillment (Appendix C). It is a multidimensional tool that describes self-initiated actions (Walker, 1996). Its present form is a self-report 52 item, 4 point summated rating scale which contains six subscales: health responsibility, exercise, nutrition, spiritual growth, interpersonal relations, and stress management. Interval data will be obtained from the HPLP II.

Desirable and undesirable behavior items are interspersed throughout the instrument in attempt to reduce response set (Walker, Sechrist, & Pender, 1987). All items are scored on a scale from 1 to 4. A score of 1 = never, 2 = sometimes, 3 = often, and 4 = routinely. A higher overall score indicates a more health-promoting lifestyle with a possible point range of scores from 52-208. Six subscales scores are obtained by calculating a mean of the responses to subscale questions. "The use of means rather than sums of scale items is recommended to retain the 1 to 4 metric of item responses and to allow meaningful comparisons of scores across subscales" (Walker, 1995, p. 3). The items included on each scale are as follows: health-promoting lifestyle (1-52), health responsibility (3, 9, 15, 21, 27, 33, 39, 45, 51), physical activity (4, 10, 16, 22, 28, 34, 40, 46), nutrition (2, 8, 14, 20, 26, 32, 38, 44, 50), spiritual growth (6, 12, 18, 24, 30, 36, 42,

48, 52), interpersonal relations (1, 7, 13, 19 25, 31, 37, 43, 49), and stress management (5, 11, 17, 23, 29, 35, 41, 47).

Cronbach's alpha coefficients for the HPLPII's subscales are as follows: health responsibility (.861), physical activity (.850), nutrition (.800), spiritual growth (.864), interpersonal relations (.872), stress management (.793). Total HPLPII Cronbach's alpha is .943 (Walker, 95). Six factors have been used as subscales following an axis factor analysis (Walker, 95). The researcher will ascertain reliability by utilizing Cronbach's alpha. Permission has been received from Dr. Walker to use the HPLPII (Appendix D) in this proposed research study.

#### Demographic data

A biographical data sheet will be completed by the subject. It includes demographic data as defined by Pender (1982) and the researcher (Appendix E). The data sheet consists of 11 items that are given numerical value.

The participant's age will be broken down into seven, five year increments ( 17 to 21 years, 22 to 26 years, 27 to 31 years, 32 to 36 years, 37 to 41 years, 42 to 46 years, 47 to 51 years). Interval data will be collected on this item.

The participant's gender will be surveyed as male or female. Nominal data will be collected on this item.

The participant's marital status will be identified as single (not living with partner), single (living with partner), married, separated, divorced, or widowed. Nominal data will be collected on this item.



The participant's ethnicity will be identified by Caucasian/White, Afro-American/Black, Hispanic, Asian, or other. If the participant's ethnicity is "other", they will be asked to specify ethnicity. Nominal data will be collected on this item.

Annual total household income will be identified as \$0 - \$25,000, \$25,001 - \$50,000, \$50,001 - \$75,000, \$75,001 - \$100,000, \$100,001 plus (+). Interval data will be collected on this item.

Children living at home will be surveyed as a "yes" or "no" response. Nominal data will be collected on this item.

Highest level of education completed will be identified as specialty Air Force training, civilian technical degree, associate degree, four year degree, masters degree, or doctorate degree. The participant will be asked to identify the highest level of education completed and to only mark one answer. Ordinal data will be collected on this item.

Military rank will be surveyed according to military rating. Enlisted ranking will be identified as E-1 to E-9. Officer ranking will be identified as O-1 to O-9. The greater ranking is noted by the higher number following the enlisted (E) or officer (O) designation. There are no O-10s or O-11s assigned to the surveyed base. Ordinal data will be collected on this item.

Air Force Specialty Code (AFSC) will be surveyed to determine the occupation of the Air Force member. Nominal data will be collected on this item.

Average hours worked per week will be identified as 40-50, 51-60, 61-70, or 71-80. Interval data will be collected on this item.

### Procedure

Following approval from the base commander (Appendix F), the survey will be distributed utilizing the Air Force base's distribution services. All surveys will be distributed by the researcher to the distribution center located in the base post office. Distribution will forward the survey by referring to the participant's office symbol (duty section) addressed on the envelope. Following completion of the survey, the participant will be instructed to route the survey through distribution to the researcher by use of an enclosed self-addressed label. Included in the survey will be a participant cover letter (including the researcher's name, address, and phone number), the survey (including directions and consent), and the label addressed to the researcher. See Appendix G for the participant's cover letter. Refer to Appendix H for the written consent form.

Surveys will be analyzed by the researcher only. Data will be transcribed onto data forms and then onto computer disc. Back-up files will be made and one diskette will be stored in a strong box at researcher's residence. Surveys will be maintained at the researcher's residence. Access to information will be available to the researcher only.

### Pilot Study

A pilot study will be conducted to ascertain reliability of the study and if indicated to refine the research instrument. Five active duty Air Force members will be surveyed to determine clarity of questions, effectiveness of instructions, time appropriateness, and completeness of response sets (Burns & Grove, 1993).

### Ethical Considerations

Ethical considerations will be reviewed and approved by the following entities in the ensuing order: Thesis committee, The Department of Nursing University of Las Vegas Human Rights Review Committee, University of Nevada, Las Vegas Human Rights Review Committee, Air Force Institute of Technology, and Nellis Air Force Base.

Prospective subjects will be treated as autonomous individuals by informing them about the study and allowing them to volunteer to choose to participate or not participate. Subjects will be free from constraint, coercion, or undue influence of any kind to participate in the study. Participants will be assured confidentiality and protection. Subjects will be informed of the purpose of the study, the identity of the researcher and the right to refuse to participate in the cover letter of the questionnaire. Written consent will be given by the participant.

The benefit risk ratio has been assessed. Time taken away from duty is an identified risk. The participant will decide as to when to complete the survey, based on duty time expectations.

Expected benefits from the research are the identification of factors involved in determination of the participant's health promotion behavior. With this information, the Air Force will be able to formulate interventions to assist the active duty person in reaching and maintaining his/her optimal health state. Additionally, new nursing knowledge will be generated and the research may increase the participant's understanding of the research process and an opportunity to know the findings this study (Burns & Grove, 1993, p. 103).

Following calculation of benefits and risks, the researcher contends that the benefits are greater than the expected risks.

### Data Analysis

Demographic data will be analyzed descriptively to provide information related to sample obtained..

Scores from the MHLC, the demographic instrument, and the Health Promotion Lifestyle Profile will be calculated. Multiple regression will be used.

The hypotheses will be tested in the following manner:

1. Locus of control will predict health promotion behaviors in active duty Air Force personnel assigned to one Air Force base.
2. A relationship exists between demographic variables (age, gender, marital status, ethnicity, annual total household income, children living in home, education, military rank, occupation, hours worked per week) and health promoting behaviors in active duty Air Force personnel assigned to one Air Force base. Chi square, correlation and multiple regression will be used according to level of data.

### Methodological Limitations

These study findings will be limited to the surveyed Air Force base. Further generalization of the survey's results may not be prudent.

Study limitations exist due to the use of a questionnaire where the subject may overestimate or underestimate their health promotion activity.

The setting in which the participants complete the questionnaire may be distracting, hence incorrect information may be collected.

#### Communication of Findings

Group data will be reported to protect the identity of the individual. The researcher considers the disclosure of findings appropriate for Nellis Air Force Base officials and personnel, Air Force Institute of Technology, Air Force Times, and Maxwell Air Force Base to enhance the knowledge base regarding health promotions.

## Appendix A

### Multidimensional Health Locus of Control Scale

## Questionnaire Regarding Attitude

Directions: This is a questionnaire designed to determine the way in which different people view certain important health-related issues. Read each question slowly. Mark your response which best represents your attitude about each statement. Please make sure that you answer every item and that you circle only **one** number per item. This is a measure of your personal beliefs, there are no right or wrong answers. It is important that you respond according to your actual beliefs and not according to how you should believe or how you think others want you to believe.

- 1 - Strongly Disagree
- 2 - Moderately Disagree
- 3 - Slightly Disagree
- 4 - Slightly Agree
- 5 - Moderately Agree
- 6 - Strongly Agree

- |   |                       |
|---|-----------------------|
| 1. If I become sick, I have the power to make myself well again.  | 1   2   3   4   5   6 |
| 2. Often I feel that no matter what I do, if I am going to get sick, I will get sick.                           | 1   2   3   4   5   6 |
| 3. If I see an excellent doctor regularly, I am less likely to have health problems.                            | 1   2   3   4   5   6 |
| 4. It seems that my health is greatly influenced by accidental happenings.                                      | 1   2   3   4   5   6 |
| 5. I can only maintain my health by consulting health professionals.  | 1   2   3   4   5   6 |
| 6. I am directly responsible for my health.   | 1   2   3   4   5   6 |
| 7. Other people play a big part in whether I stay healthy or become sick.                                       | 1   2   3   4   5   6 |
| 8. Whatever goes wrong with my health is my own fault.  | 1   2   3   4   5   6 |
| 9. When I am sick, I just have to let nature run its course.  | 1   2   3   4   5   6 |
| 10. Health professionals keep me healthy.   | 1   2   3   4   5   6 |
| 11. When I stay healthy, I'm just plain lucky.  | 1   2   3   4   5   6 |
| 12. My physical well-being depends on how well I take care of myself.   | 1   2   3   4   5   6 |
| 13. When I feel ill, I know it is because I have not been taking care of myself properly.                       | 1   2   3   4   5   6 |
| 14. The type of care I receive from other people is what is responsible for how well I recover from an illness. | 1   2   3   4   5   6 |

## Questionnaire Regarding Attitude (Continued)

- 1 - Strongly Disagree
- 2 - Moderately Disagree
- 3 - Slightly Disagree
- 4 - Slightly Agree
- 5 - Moderately Agree
- 6 - Strongly Agree

- |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| 15. Even when I take care of myself, it's easy to get sick.                         | 1 | 2 | 3 | 4 | 5 | 6 |
| 16. When I become ill, it's a matter of fate.                                       | 1 | 2 | 3 | 4 | 5 | 6 |
| 17. I can pretty much stay healthy by taking good care of myself.                   | 1 | 2 | 3 | 4 | 5 | 6 |
| 18. Following doctor's orders to the letter is the best way for me to stay healthy. | 1 | 2 | 3 | 4 | 5 | 6 |



## Appendix B

Permission to use the Multidimensional Health Locus of Control Scale



Bridgette J. Grabowski  
5436 Walton Health Avenue  
Las Vegas, NV 89122

May 28, 1996  
Dr. Kenneth Wallston  
School of Nursing  
Vanderbilt University  
Nashville, TN 39240

Dear Dr. Wallston,

May I have your written permission to use your questionnaire in my thesis: Determinants of health promotion in active duty Air Force personnel at Nellis Air Force Base, NV. I am currently enrolled in the University of Nevada, Las Vegas' nursing masters program and would appreciate your consent.

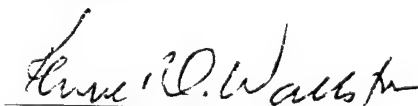
In addition, would you please send me the Multidimensional Health Locus of Control Scale. I'd like to ensure that the scale I have is accurate.

Best wishes!

Sincerely,

  
Bridgette J. Grabowski, Capt, United States Air Force, BSN

I, KENNETH A. WALLSTON, give permission to Bridgette J. Grabowski to use the "Multidimensional Health Locus of Control" tool in the research study of Air Force personnel.

  
Kenneth Wallston

Date: 6/3/96

## Appendix C

### Health Promoting Lifestyle Profile II

## Questionnaire regarding Health Promotion Behavior

Directions: This questionnaire contains statements about your present way of life or personal habits. Please respond to each item as accurately as possible, try not to skip any item, and mark only one response. Indicate the frequency with which you engage in each behavior by circling the appropriate answer.

1 - Never  
2 - Sometimes  
3 - Often  
4 - Routinely

- |   |               |
|---|---------------|
| 1. Discuss my problems and concerns with people close to me.  | 1   2   3   4 |
| 2. Choose a diet low in fat, saturated fat, and cholesterol.  | 1   2   3   4 |
| 3. Report any unusual signs or symptoms to a physician or other health professional.  | 1   2   3   4 |
| 4. Follow a planned exercise program.   | 1   2   3   4 |
| 5. Get enough sleep.  | 1   2   3   4 |
| 6. Feel I am growing and changing in positive ways.   | 1   2   3   4 |
| 7. Praise other people easily for their achievements.   | 1   2   3   4 |
| 8. Limit use of sugars and food containing sugar (sweets).  | 1   2   3   4 |
| 9. Read or watch TV programs about improving health.  | 1   2   3   4 |
| 10. Exercise vigorously for 20 or more minutes at least three times a week (such as brisk walking, bicycling, aerobic dancing, using a stir climber). | 1   2   3   4 |
| 11. Take some time for relaxation each day.   | 1   2   3   4 |
| 12. Believe that my life has purpose.   | 1   2   3   4 |
| 13. Maintain meaningful and fulfilling relationships with others.   | 1   2   3   4 |
| 14. Eat 6-11 servings of bread, cereal, rice and pasta each day.  | 1   2   3   4 |
| 15. Question health professionals in order to understand their instructions.  | 1   2   3   4 |
| 16. Take part in light to moderate physical activity (such as sustained walking 30 - 40 minutes 5 or more times a week).                              | 1   2   3   4 |

## Health Promotion Behavior (Continued)

1 - Never  
2 - Sometimes  
3 - Often  
4 - Routinely

- |  |   |   |   |   |
|--|---|---|---|---|
| 17. Accept those things in my life which I can not change.   | 1 | 2 | 3 | 4 |
| 18. Look forward to the future.  | 1 | 2 | 3 | 4 |
| 19. Spend time with close friends.   | 1 | 2 | 3 | 4 |
| 20. Eat 2-4 servings of fruit each day.  | 1 | 2 | 3 | 4 |
| 21. Get a second opinion when I question my health care provider's advice.   | 1 | 2 | 3 | 4 |
| 22. Take part in leisure-time (recreational) physical activities (such as swimming, dancing, bicycling).   | 1 | 2 | 3 | 4 |
| 23. Concentrate on pleasant thoughts at bedtime.   | 1 | 2 | 3 | 4 |
| 24. Feel content and at peace with myself.   | 1 | 2 | 3 | 4 |
| 25. Find it easy to show concern, love, and warmth to others.  | 1 | 2 | 3 | 4 |
| 26. Eat 3-5 servings of vegetables each day.   | 1 | 2 | 3 | 4 |
| 27. Discuss my health concerns with a health professional.   | 1 | 2 | 3 | 4 |
| 28. Do stretching exercises at least 3 times per week.   | 1 | 2 | 3 | 4 |
| 29. Use specific methods to control my stress.   | 1 | 2 | 3 | 4 |
| 30. Work toward long-term goals in my life.  | 1 | 2 | 3 | 4 |
| 31. Touch and am touched by people I care about.   | 1 | 2 | 3 | 4 |
| 32. Eat 2-3 servings of milk, yogurt, or cheese each day.  | 1 | 2 | 3 | 4 |
| 33. Inspect my body at least monthly for physical changes or danger signs.   | 1 | 2 | 3 | 4 |
| 34. Get exercise during usual daily activities (such as walking during lunch, using stairs instead of elevators, parking car away from destination and walking). | 1 | 2 | 3 | 4 |
| 35. Balance time between work and play.  | 1 | 2 | 3 | 4 |

## Health Promotion Behavior (Continued)

1 - Never  
2 - Sometimes  
3 - Often  
4 - Routinely

36. Find each day interesting and challenging.	1	2	3	4
37. Find ways to meet my needs for intimacy.	1	2	3	4
38. Eat only 2-3 servings from the meat poultry, fish, dried, beans, eggs, and nuts group each day.	1	2	3	4
39. Ask for information from health professionals about how to take good care of myself.	1	2	3	4
40. Check my pulse rate when exercising.	1	2	3	4
41. Practice relation or meditation for 15-20 minutes daily.	1	2	3	4
42. Am aware of what is important to me in life.	1	2	3	4
43. Get support from a network of caring people.	1	2	3	4
44. Read labels to identify nutrients, fats, and sodium content in packaged foods.	1	2	3	4
45. Attend educational programs on personal health care.	1	2	3	4
46. Reach my target heart rate when exercising.	1	2	3	4
47. Pace myself to prevent tiredness.	1	2	3	4
48. Feel connected with some force greater than myself.	1	2	3	4
49. Settle conflicts with others through discussions and compromise.	1	2	3	4
50. Eat breakfast.	1	2	3	4
51. Seek guidance or counseling when necessary.	1	2	3	4
52. Expose myself to new experiences and challenges.	1	2	3	4

## Appendix D

Permission to use the Health Promoting Lifestyle Profile

## PERMISSION FORM

I plan to use the Health-Promoting Lifestyle Profile II in a research or evaluation project entitled:  
Determinants of Health Promotion in Active Duty Nellis Air Force Base Personnel

I am enclosing a check for ten dollars (\$10.00) payable to the **University of Nebraska Medical Center College of Nursing**.

Bridgett Grabowski  
Print Name

Bridgett Grabowski  
Signature

Student, University of Nevada,  
Position Las Vegas

702 641-8358  
Area Code Telephone #

5436 Walton Health Avenue  
Mailing Address Las Vegas, NV

89127

Permission is granted to the above investigator to copy and use the Health-Promoting Lifestyle Profile II for non-commercial data collection purposes such as research or evaluation projects provided that content is not altered in any way and the copyright/permission statement at the end is retained. The instrument may be reproduced in the appendix of a thesis, dissertation or research grant proposal without further permission. Reproduction for any other purpose, including the publication of study results, is prohibited without specific permission.

S. Walker  
Susan Noble Walker

6/11/96  
Date

Please send two signed copies of this page to:

Susan Noble Walker, Ed.D., R.N., F.A.A.N.  
University of Nebraska Medical Center  
College of Nursing  
600 South 42nd Street  
Omaha, Nebraska 68198-5330



Appendix E  
Biographical Data Sheet



## Biographical Data Sheet (Continued)

8. Military Rank: ☐ E-1 ☐ O-1  
☐ E-2 ☐ O-2  
☐ E-3 ☐ O-3  
☐ E-4 ☐ O-4  
☐ E-5 ☐ O-5  
☐ E-6 ☐ O-6  
☐ E-7 ☐ O-7  
☐ E-8 ☐ O-8  
☐ E-9 ☐ O-9

9. Air Force Specialty Code (AFSC): \_\_\_\_\_

10. Average Hours Worked Per Week: ☐ 40-50 hours/week  
☐ 51-60 hours/week  
☐ 61-70 hours/week  
☐ 71-80 hours/week

## Appendix F

Letter to Air Force Base Commander

## MEMORANDUM FOR AWC/CC

12 Jul 96

4390 North Washington Blvd Suite 117  
Nellis AFB, NV 89191-7076

FROM: Capt Bridgette Grabowski  
5436 Walton Heath Avenue  
Las Vegas, NV 89122  
(702) 641-8358

SUBJ: Air Force Institute of Technology (AFIT) Research Study

I am currently enrolled in the University of Nevada, Las Vegas (UNLV) representing the Air Force Institute of Technology. As part of the UNLV's and the Air Force's nursing masters requirements, I would like to complete my thesis on: Determinants of Health Promotion Behavior in Active Duty, Nellis Air Force Base Personnel.

I will randomly select my sample from all active duty Air Force personnel assigned to Nellis Air Force Base in Dec 96. I request participation of approximately 225 participants. The research study will consist of participant's responding to a survey that takes approximately 30 minutes to complete. I would appreciate duty time participation, to ensure timely completion. Participation in survey would be voluntary and participant's identity will be kept confidential. Distribution of the survey would be through base distribution.

Prior to distribution of the survey, I will route it through AFIT and AFMPC channels as directed in AFITI 36-105. Their approval is mandatory prior to distribution of the survey.

Health promotion behavior has proven to be a predictive determinant of a health care client's health state. Department of Defense research concerning health promoting behavior is scarce and therefore my research would significantly add to the current body of knowledge. Nellis Air Force Base and the Air Force will benefit from the findings of this research study to more effectively implement health promotion programs to meet the participant's needs.

I would sincerely appreciate your support in granting me the sample size requested. Please contact me if you have any further questions regarding my research project.

Bridgette J. Grabowski, Capt, USAF, NC  
AFIT Graduate Student

Appendix G  
Cover Letter to Participants

MEMORANDUM FOR (*participant's name*)

1 Dec 96

FROM: Capt Bridgette J. Grabowski (*office symbol*)  
5436 Walton Heath Avenue  
Las Vegas, NV 89122  
(702) 641-8358

SUBJ: Health Promotion Survey

I am an Air Force nurse currently completing my masters degree at University of Nevada, Las Vegas. Throughout my nursing career I have been interested in health promotion behavior and what determines if a person adheres to a healthy lifestyle. The Air Force is currently looking at health promotion and disease prevention issues that will enhance quality of life of active duty and their dependents. The survey I am conducting will give insight as to ways the Air Force can better meet your health promotion needs.

You have been randomly selected from Nellis Air Force Base personnel to participate in this study. It should take approximately 10 minutes. The information you provide will be kept confidential and available only to myself. Your name will not be identified in any write-up of the study. Participation in this study is completely voluntary.

After signing the consent and reading the directions, please complete the questionnaire. The accuracy of your information will greatly enhance the results. Upon completion of the questionnaire, return the survey to the envelope, place the white label (identifying myself) on the front of the envelope, and place it in distribution.

If you have any questions about the study, please contact me. Questions about the rights of research subjects can be directed to UNLVs' Office of Research Administration, 702-895-1357.

I sincerely appreciate your participation in the study.

BRIDGETTE J. GRABOWSKI, Capt, USAF, NC  
Air Force Institute of Technology, Graduate Student

Appendix H  
Written Consent Form



### Written Consent Form

I have read the previous cover letter. I understand that participation in this research study is completely voluntary and that my identity will be kept confidential.

---

Participant's Name

---

Date

*œ Thank you for your time and effort in completing this study.ð*

Appendix I  
Thesis Budget

Expected expenditures:

Fee for data analysis.....	\$250.00
Paper.....	\$100.00
Copies of questionnaire.....	\$100.00
Postage.....	\$100.00
Diskettes.....	\$10.00
Envelopes.....	\$50.00
Gas.....	<u>\$50.00</u>
TOTAL.....	\$660.00

Air Force materials and services will be utilized when available.

Expected income:

Air Force Thesis support.....	\$100.00
Graduate Students' Association Grant.....	<u>\$100.00</u>
TOTAL.....	\$200.00

Appendix J  
Thesis Timeline

## Time Line

September 1996: Proposal finalized and to thesis committee for recommendations; submit human subject review requirements to UNLV Department of Nursing and UNLV Human Rights Review Committee; letter to commander at Nellis Air Force Base; survey approval by Air Force; send proposal to Air Force Institute of Technology (AFIT).

October 1996: Notify Nellis Air Force Base paper (Bullseye) regarding upcoming survey; ensure Air Force chain of command is notified; determine population size and survey participants at NAFB.

November 1996: Dispense surveys to NAFB participants.

November/December 1996: Collect surveys from participants

January 1997: Commit data to diskettes. Give diskette of data to data analyzer. Allow one month for return.

March 1997: Analyze data and document results. Write chapters V and VI.

April 1997: Defend thesis; final revisions; copies to UNLV Graduate college and Air Force.

## References

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